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Ekaterina Sinyashina*

University of Alicante, Spain
kate.sinyashina@ua.es

THE EFFECT OF REPETITION ON INCIDENTAL LEGAL VOCABULARY LEARNING THROUGH LONG-TERM EXPOSURE TO AUTHENTIC VIDEOS

Abstract

This study intends to identify the minimal number of repetitions needed for successful incidental learning of legal vocabulary after watching authentic videos as a leisure time activity. It also examines the effectiveness of long-term exposure to authentic videos for incidental learning of legal vocabulary. For this purpose, the participants were distributed between two groups: the incidental and the control one. The incidental group had to watch 5 hours of authentic TV documentary *Forensic Files*. Fourteen target legal words had from 4 to 46 repetitions in the videos. The post-tests measured incidental learning of two aspects of the target words: form recognition and meaning recall. The overall results revealed that watching five hours of authentic videos leads to incidental learning of legal vocabulary. The results of the form recognition post-test suggest that the possible minimal number of repetitions for successful incidental learning of this aspect of the legal words may lie around 14 repetitions. No definite conclusion could be drawn about the minimal number of repetitions necessary for successful recall of the meanings of the target words.

Key words

legal vocabulary, incidental learning, authentic videos, word repetitions, English for legal purposes (ELP).

* Corresponding address: Ekaterina Sinyashina, Universidad de Alicante, ap. de Correos, 99, 03080 Alicante, España.

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1. INTRODUCTION

New technology has offered English for Specific Purposes (ESP) teachers and learners "the means to overcome the spatial and temporal bounds of their classes" (Belcher, 2004: 173). Authentic videos are part of technological advances that learners of legal and general English can benefit from. YouTube, Amazon and Netflix websites offer access to many authentic TV series and films, which can be used as a source of input for incidental vocabulary learning. In other words, learners can incidentally pick up "new words from context without intending to do so" (Barcroft, 2015: 41) by being exposed to authentic videos in their leisure time.

Previous research on the use of authentic videos for general vocabulary learning showed that this activity can lead to incidental learning of new vocabulary (Gorjian, 2014; Peters & Webb, 2018; Rodgers, 2013). Although the same reasoning can be applied to ESP vocabulary learning, no studies have so far examined the effectiveness of long-term exposure to authentic videos as a leisure time activity for incidental legal vocabulary learning.

A similar situation is observed in the relationship between the number of repetitions and incidental learning of legal vocabulary through authentic videos. Three studies (Peters & Webb, 2018; Peters, Heynen, & Puimège, 2016; Rodgers, 2013) found a beneficial effect of the number of repetitions for incidental general vocabulary learning through the video input condition. Yet, no study has so far investigated the matter of the minimal number of repetitions needed for successful learning of general or ESP vocabulary through long-term exposure to authentic videos. Therefore, one of the purposes of this study is to try to establish the critical point of repetitions at which learners can successfully acquire different aspects of new legal words through watching authentic videos. This study also addresses the issue of the effectiveness of long-term exposure to authentic videos for incidental learning of new legal vocabulary.

2. LITERATURE REVIEW

2.1. Legal language learning and teaching

Many learners of English as a second language or foreign language study general English, "that is all-purpose language with no special focus on one area of human experience" (Harmer, 2003: 9). The decision to teach general English is partly made because teachers "do not know how, why and when our students will need the language in the future, and so we give them language with the broadest range of use possible" (Harmer, 2003: 10). General English "teaches learners enough English to survive in certain narrowly defined venues but not enough to thrive in

the world at large" (Belcher, 2004: 165). ESP learners, on the other hand, are usually adults with some knowledge of General English who have very specific reasons (usually professional) for learning the target language (Fiorito, 2005). According to Hutchinson and Waters (1987: 16), ESP can be divided into two main types depending on whether learners require English for academic study or for work. When referring to legal language as ESP, Bhatia (1987) and Harris (1992) use the term English for Academic/Occupational Legal Purposes (EA/OLP).

Andersen (1988: 125) rightly points out that "the law lies behind nearly all that we do, even if we are not normally aware of it". That is one of the reasons why the study of the legal language has been in the focus of scholars starting with Aristotle's *Rhetoric* (Campos Pardillos, 2007). Bhatia (1987: 227) speaks about the term 'language of the law' and gives it the following definition:

> "The term 'language of the law' encompasses several usefully distinguishable genres depending upon the communicative purposes they tend to fulfil, the settings or contexts in which they are used, the communicative events or activities they are associated with, the social or professional relationship between the participants taking part in such activities or events, the background knowledge that such participants bring to the situation in which that particular event is embedded and a number of other factors".

Campos Pardillos (2007: 164-165) comments on two types of genres of legal language: *soft* and *hard*. As the *soft* genres he refers to private conversations between lawyers and their clients, instructions that judges give to witnesses or the accused, 'courtroom thrillers', etc. The *hard* genres, on the other hand, make up the core of legal texts (e.g. laws and judgments).

One of the most visible traits of legal language is the specific vocabulary, which constitutes the core of any specialised language (Alcaraz Varó, 2007: 7). Nation (2004: 198) refers to legal vocabulary as technical vocabulary, which is "recognisably specific to a particular topic, field or discipline". Concerning the levels of specialization, he classifies technical vocabulary into four categories. The words that belong to the first category appear "rarely if at all outside this particular field" (Nation, 2004: 198). Words from the second category are used "both inside and outside this particular field but not with the same meaning" (Nation, 2004: 199), whereas the specialised meanings of the words from the third group are easily accessible through their meanings outside the field (Nation, 2004). Finally, the words from the fourth category are the ones that are more common in the particular field, although they have no specialised meaning (Nation, 2004). Chung and Nation (2004: 252) explain that "technical vocabulary is subject related, occurs in a specialist domain, and is part of a system of subject knowledge".

The importance of context for ESP teaching and learning is emphasised by many scholars. Bhatia (1987), for example, points out the importance of the settings or context in which the legal language education takes place. Harris (1992)

speaks about the need to broaden the EALP outlook from text to context. Richards (1989: 215) explains that ESP seeks to establish a synthesis of the operational environment, which is an important source of input for course design, and "the context in which it will be judged and as a backdrop against which it will take place". Belcher (2004: 166) says that "never before has ESP emphasized social situatedness as much as it does today".

2.2. Incidental vocabulary learning through authentic videos

Scholars give different definitions of incidental language and vocabulary learning. Stephen Krashen (1982; 1989), who can be considered the main supporter of incidental acquisition of a target language and vocabulary, defines incidental acquisition as the process that occurs subconsciously when learners do not know they are acquiring a language because their "conscious focus is on the message, not form" (Krashen, 1989: 440). This learning process, according to Krashen (1989: 440), "is identical to what has been termed 'incidental learning'".

Schmidt (1995) introduces the idea of intention and defines incidental learning as the one that occurs without any intention. Swanborn and de Glopper (1999: 262) say that in incidental learning "the purpose for reading does not specifically provoke learning or directing attention to the meaning of unknown words". For his part, Nation (2004: 232) draws attention to the importance of the context and sees incidental learning as "learning of vocabulary from reading or listening to normal language use while the main focus of the learners' attention is on the message of the text". Barcroft (2015: 42) defines incidental vocabulary learning as "picking up new words from context without intending to do so, such as when engaging in a conversation or reading a text for meaning and processing new words as input and inferring their meanings".

Nowadays, thanks to the advances in new technology, authentic videos are easily accessible for the *Digital Natives* generation (Prensky, 2001: 1) and can be used by teachers of general and specific English as one of the sources of input for incidental vocabulary learning. The benefits of authentic videos are various. Firstly, they provide a combination of three types of input: video/image, sound and verbal information (subtitles/captions), which improves the processing of information (see Baltova, 1999; Clark & Paivio, 1991; Montero Perez, Peters, & Desmet, 2017; Paivio, 1991; Sydorenko, 2010). Secondly, authentic videos work as a strong motivational factor (Cruse, 2006; King, 2002). Finally, they provide an opportunity for cross-cultural awareness because target language learners can observe authentic, everyday communication in a diversity of informal contexts (Harmer, 2003; Lin & Siyanova-Chanturia, 2014).

To our knowledge, the effectiveness of long-term exposure to authentic videos (more than 1 hour) for incidental English vocabulary learning has been studied in four experiments (see Birulés-Muntané & Soto-Faraco, 2016; Gorjian,

2014; Peters & Webb, 2018; Rodgers, 2013). The results of the studies by Gorjian (2014), Peters and Webb (2018) and Rodgers (2013) indicate that learners can acquire new vocabulary after having been exposed to authentic videos. The study by Birulés-Muntané and Soto-Faraco (2016), however, did not find conclusive evidence of the effectiveness of long-term exposure to the authentic video. It is worth noting that the four studies differ in time of exposure to the authentic videos, the age of the participants, the proficiency level of the participants, and the aspects of the target words that were measured. The review of the four studies conducted on this matter is presented in Table 1.

AUTHOR/S (YEAR)	TIME OF EXPOSURE	PROFICIENCY LEVEL	GROUPS	MEASURES	FINDINGS
Rodgers (2013)	10 episodes approx. 42 min each	pre-intermediate to intermediate	2 experimental groups and a control group	form and meaning	learners managed to acquire "almost a quarter of the vocabulary" (Rodgers, 2013: 96)
Gorjian (2014)	8 sessions, 30 min long	intermediate	3 groups: bimodal subtitles, standard subtitles and reversed subtitles	not specified (multiple-choice test)	the mean scores of the participants in all groups have increased from pre-test to post-test
Birulés-Muntané & Soto-Faraco (2016)	1: 08 h long	intermediate	three conditions: English subtitles, Spanish subtitles and no subtitles	definition-matching	"results do not show conclusive evidence for a clear acquisition of new vocabulary after watching the episode" (Birulés-Muntané & Soto-Faraco, 2016: 7)
Peters & Webb (2018)	approx. 1 h	intermediate	Experiment 1 and 2: experimental and control groups	Experiment 1: spoken form recognition + meaning recall. Experiment 2: meaning recognition	positive effect of viewing TV on word learning; "substantial learning gains particularly at the level of meaning recall and meaning recognition" (Peters & Webb, 2018: 19)

Table 1. The effectiveness of long-term exposure to authentic videos for incidental general vocabulary learning

2.3. The repetition variable and incidental vocabulary learning

In some cases, one occurrence of a new word may be enough for it to be remembered (Cook, 2001). The general tendency, however, is that a new word should be encountered several times before learners manage to learn it. Hulstijn and Laufer (2001: 553) believe that "it is almost indisputable that multiple exposures to new words are desirable". Nation (2004: 4) agrees with them and says that "learners need many different kinds of meetings with words in order to learn them fully". Barcroft (2015: 130) also points out that "increased exposure to target L2 vocabulary in the input leads to stronger and more robust developing lexical representations over time".

The effect of the repetition variable on incidental vocabulary learning has been examined under four input conditions: reading, reading+listening, listening, and watching videos. The experiments by Chen and Truscott (2010), Heidari-Shahreza and Tavakoli (2016), Horst, Cobb, and Meara (1998), Hulstijn, Hollander, and Greidanus (1996), Pellicer-Sánchez (2016), Pellicer-Sánchez and Schmitt (2010), Rott (1999), Waring and Takaki (2003), and Webb (2007) studied this matter through the reading input mode. Malone (2018), Tekmen and Daloğlu (2006), Webb and Chang (2015), Webb, Newton, and Chang (2013) and Zahar, Cobb, and Spada (2001) focused on the effect of the number of repetitions for incidental vocabulary learning through "reading+listening" input condition, whereas Vidal (2003; 2011) studied it through the listening input mode. All of the above mentioned scholars found positive correlation between the number of occurrences of new words in the text and the incidental learning of different aspects of these words.

Some of the authors also comment on the number of repetitions necessary for successful learning of different aspects of a new word. The study by Vidal (2011: 247), for example, reveals that for the listening condition "the greatest increase occurred between five and six times". In the case of the reading input, Hulstijn et al. (1996: 331) say that the students "more readily recognized target words that had appeared three times than target words that had appeared only once". The study by Waring and Takaki (2003) found that more than eight repetitions are needed for successful recognition of the meaning and form of new words. Nevertheless, a higher number of repetitions (15+) may be needed for students to be able to translate the new words. Webb (2007) found that after three encounters students demonstrated greater learning of both receptive and productive knowledge in comparison to one encounter. However, he argues that "in many cases more than ten encounters are needed to achieve full knowledge of a word" (Webb, 2007: 62). The results of Pellicer-Sánchez and Schmitt's (2010) study also suggest that words that are repeated ten or more times are learned better than the ones that are repeated fewer times.

As for the video input, we found three studies that have so far examined the effectiveness of the repetition variable on incidental learning of new words after

watching authentic videos. The studies by Peters and Webb (2018) and Rodgers (2013) dealt with long-term exposure to authentic videos, whereas the one by Peters et al. (2016) focused on watching a short video. The results of Rodgers's (2013) study, in which the target words were repeated from 1 to 10 times, showed a positive relationship between the number of occurrences of the target words and the learning of their forms and meanings. Peters et al. (2016: 145) also found the "beneficial effect of frequency of occurrence on incidental word learning". Similarly, the results of Peters and Webb's (2018) study, in which the target words were repeated from 1 to 6 times, indicate a positive relationship between the number of repetitions and new vocabulary learning. These authors also point out that repetition of the target words in their study "had a slightly bigger impact on meaning recall than on meaning recognition" (Peters & Webb, 2018: 21). It is worth noting that, unlike studies cited in the previous paragraphs, the authors of these three studies do not comment on the possible critical number of repetitions needed for successful learning of different aspects of a new word. It can probably be explained by the fact that the number of repetitions in these three studies was treated as either one of the parameters or a secondary question of the experiment.

3. THE STUDY

3.1. Research questions

The present study was designed to try to establish the minimal number of repetitions necessary for successful learning of two aspects of target legal words: form recognition and meaning recall. It also examines the effectiveness of long-term exposure to authentic videos as a leisure time activity for incidental learning of legal vocabulary. To do so, the performance of two groups on the two post-tests was compared: the incidental group, which had to watch approximately 5 hours of authentic videos, and the control one, which was used as a reference group. The number of repetitions of the target words chosen for the study varied from 4 to 46.

Three research questions were formulated:

1. Does viewing 5 hours of authentic videos as a leisure time activity result in legal vocabulary gains? That is, does the incidental group outperform the control one on the post-tests for form recognition and meaning recall?
2. What is the minimal number of repetitions at which the incidental group begins to consistently outperform the control one in the form recognition post-test?
3. What is the minimal number of repetitions at which the incidental group begins to consistently outperform the control one in the meaning recall post-test?

3.2. Participants

In the academic year 2012-2013, Campos Pardillos et al. (2013) evaluated the methods and the level of satisfaction of legal vocabulary learning at the University of Alicante. They noticed that, in general, students of the English Studies degree had a high level of English vocabulary. Nevertheless, certain noticeable gaps were observed in reference to legal vocabulary proficiency (Campos Pardillos et al., 2013). That is why we decided to choose students of the English Studies degree as the target group for the present study.

Prior to the experiment, 95 first year students of the English Studies degree of the University of Alicante took part in a questionnaire and pre-test. The purpose of the questionnaire was to select the students who enjoy watching videos (film, TV series, etc.) dealing with legal topics (see Appendix A). The pre-test consisted of completing the Use of English part of the B2 First of Cambridge English Qualifications. This helped choose the participants who demonstrated a B1 proficiency level of English (according to the CEFR).

Once the answers to the questionnaire and the results of the pre-test were analysed, 45 students were selected for the study. They were randomly assigned into two groups: the incidental group and the control one. It should be mentioned, however, that 5 participants from the incidental group dropped out of the experiment before its completion. The total number of the participants in each of the two groups and their characteristics can be seen in Table 2.

GROUP	NUMBER OF PARTICIPANTS	AGE RANGE	MALE	FEMALE	L1
Incidental	17	18-22	2	15	Spanish
Control	23	18-22	7	16	Spanish

Table 2. The participants

3.3. Materials and target words

Sixteen episodes of the 11th season of the TV documentary *Forensic Files* were used as video material for this experiment. Each episode lasts approximately 20 minutes. The approximate total running time of the sixteen episodes was 5 hours.

Fourteen legal words were selected as the target legal words for the experiment. The *Frequency* program, which is part of the *Range* program by Nation (2017), was used to analyse the scripts of the subtitles of the sixteen episodes in order to determine the number of repetitions of the target words in the video. Although the *Frequency* program treats singular and plural forms of the base form of countable nouns as separate units, we considered them as various repetitions of the same unit.

We also used the *Range* program with BNC/COCA lists of 25,000 words (see Nation, 2017) in order to determine the frequency of the target words. Nevertheless, the frequency results of the *Range* program were not considered the decisive reason for the inclusion of the words in the target word list. That is why, apart from the low frequency words, which belong to baselists 4 to 11, we also included 5 words that belong to the first 3,000 most common word families (see Table 3 for more information). The decision to include high frequency words was made on the basis of the fact that the participants in the study were all learners of general English and, therefore, were unlikely to be familiar with the specific meanings of the target legal words.

Fourteen target legal words and the results of the analysis of the *Range* and *Frequency* programs for the inclusion of the words to the target word list are reflected in Table 3.

TARGET WORDS	NUMBER OF REPETITIONS	FREQUENCY BNC/COCA WORD LISTS OF 25,000 WORDS
attorney	4	baselist 8
manslaughter	4	baselist 11
statement	5	baselist 1
questioning	5	baselist 1
parole	6	baselist 9
burglary	9	baselist 3
abduction	11	baselist 8
stalker	12	baselist 6
guilty	14	baselist 2
arson	14	baselist 7
trial	18	baselist 2
witness	21	baselist 2
alibi	31	baselist 8
prosecutor	46	baselist 4

Table 3. Number of repetitions and the frequency of the target words

3.4. Post-tests

The post-tests were designed to measure two aspects of the target words: form recognition and meaning recall. We decided to focus on these two aspects because of the impossibility of measuring all of the components of word-knowledge (Schmitt, 2010).

The idea of the measures used in this experiment is modelled on Peters and Webb's (2018) and Webb's (2008) studies. To test the learning of the form recognition aspect, a multiple-choice format was used (see Appendix C). The target words appeared along with three distractors, which were created to resemble the target words orthographically.

Meaning recall was measured using a translation test (see Appendix D). The participants were asked to translate the target words into their L1 (Spanish). A maximum of one point was awarded in the case of correct translation, whereas zero points were awarded in the case of wrong translation.

3.5. Procedure

Once the participants were identified, they were asked to sign the consent forms. They were then randomly assigned into one of the two groups: the incidental group and the control one. The participants from the incidental group were asked to watch the episodes of the *Forensic Files* TV documentary during 3 weeks. They had to watch the episodes with subtitles in English because research on the use of subtitled/captioned videos for new vocabulary learning revealed their positive effect (see, for example, Baltova, 1999; Sydorenko, 2010; Montero Perez et al., 2017). They could watch the episodes at the most suitable time for them. The participants' actions while watching sessions were neither restricted nor controlled for due to the fact that we wanted to test incidental learning of new vocabulary under real-life conditions. The instructions that were given to the participants from the incidental group can be seen in Appendix B.

The control group was used as a reference group in order to correct the possible influence of the variables that were out of the range of the present study (e.g. participants' motivation, their psychological state at the moment of the post-tests, possible vocabulary gains that could have taken place outside the experiment, etc.).

One week after the incidental group finished watching the episodes, two post-tests for both groups were administered. The participants had to answer the multiple-choice test for form recognition followed by the meaning recall test.

4. RESULTS

4.1. General results

The general results of the two post-tests can be seen in Tables 4 and 5. In the form recognition post-test the participants from the incidental group managed to recognise the form of 75% of the target words in comparison to 61% of correct

answers in the control group. In the meaning recall post-test, the participants from the incidental group also scored higher than the ones from the control one, with 32% and 22% of correct answers respectively. On the whole, this data indicates that the incidental group outperformed the control one on both post-tests.

Repetitions	Target words	Control group			Incidental group		
		Total participants	Correct answers	%	Total participants	Correct answers	%
4	attorney	23	13	57%	17	4	24%
4	manslaughter	23	6	26%	17	10	59%
5	questioning	23	14	61%	17	13	76%
5	statement	23	21	91%	17	15	88%
6	parole	23	12	52%	17	12	71%
9	burglary	23	20	87%	17	14	82%
11	abduction	23	15	65%	17	15	88%
14	guilty	23	22	96%	17	16	94%
14	arson	23	3	13%	17	8	47%
14	stalker	23	23	100%	17	17	100%
19	trial	23	22	96%	17	17	100%
21	witness	23	21	91%	17	15	88%
31	alibi	23	1	4%	17	11	65%
46	prosecutor	23	5	22%	17	11	65%
Totals:	14	322	198	61%	238	178	75%

Table 4. General results of the form recognition post-test

Repetitions	Target words	Control group			Incidental group		
		Total participants	Correct answers	%	Total participants	Correct answers	%
4	attorney	23	1	4%	17	2	12%
4	manslaughter	23	0	0%	17	0	0%
5	questioning	23	10	43%	17	7	41%
5	statement	23	1	4%	17	1	6%
6	parole	23	0	0%	17	0	0%
9	burglary	23	12	52%	17	8	47%
11	abduction	23	1	4%	17	6	35%
14	guilty	23	14	61%	17	14	82%
14	arson	23	0	0%	17	1	6%
14	stalker	23	11	48%	17	5	29%
19	trial	23	6	26%	17	9	53%
21	witness	23	13	57%	17	12	71%
31	alibi	23	1	4%	17	11	65%
46	prosecutor	23	0	0%	17	1	6%
Totals:	14	322	70	22%	238	77	32%

Table 5. General results of the meaning recall post-test

4.2. Form recognition and number of repetitions

The general results of both post-tests revealed better performance of the incidental group in comparison to the control one. In order to try to establish the minimal number of repetitions for effective incidental learning of the form recognition aspect of the legal words, we analysed the scores of the form recognition post-test for each target word in the incidental group and compared them to the scores achieved by each word in the control group.

The first thing that struck our attention was that some of the target words in the control group demonstrated high initial scores (e.g. *stalker*, 100%; *trial*, 96%; *guilty*, 96%; *statement*, 91%; *witness*, 91%; *burglary*, 87%). We decided to eliminate these words from the further analysis due to the fact that it would have

been difficult to improve these initially high scores. Once these words were eliminated, the percentage increase for each of the remaining target words was calculated (see Table 6). A simple analysis of the percentage increase revealed that the number of correct answers grows with the increase of the number of repetitions.

Repetitions	Target words	Control group			Incidental group			% increase
		Total participants	Correct answers	%	Total participants	Correct answers	%	
4	attorney	23	13	57%	17	4	24%	-33%
4	manslaughter	23	6	26%	17	10	59%	33%
5	questioning	23	14	61%	17	13	76%	16%
6	parole	23	12	52%	17	12	71%	18%
11	abduction	23	15	65%	17	15	88%	23%
14	arson	23	3	13%	17	8	47%	34%
31	alibi	23	1	4%	17	11	65%	60%
46	prosecutor	23	5	22%	17	11	65%	43%

Table 6. Percentage increase for the form recognition aspect

We then used the Fisher test to statistically analyse the percentage increase for each of the remaining target words. The Fisher test was used instead of the chi-square one because it is more rigorous and particularly employed when the data sample size is small, which is the case of the present study (17 and 23 participants in each of the two groups). The results of the Fisher test showed that the percentage increase was statistically significant for the words *attorney*, *manslaughter*, *arson*, *alibi*, and *prosecutor* (see Table 7).

Repetitions	Target words	% increase	Fisher test results	
4	attorney	-33%	0,038	significant
4	manslaughter	33%	0,039	significant
5	questioning	16%	0,244	not significant
6	parole	18%	0,199	not significant
11	abduction	23%	0,096	not significant
14	arson	34%	0,021	significant
31	alibi	60%	<0,001	significant
46	prosecutor	43%	0,008	significant

Table 7. Fisher test results for the form recognition aspect

The correlation *R* test showed a significant moderate correlation of 0.5 between the number of repetitions and the number of correct answers. The scatter plot and the tendency line of the correlation test can be seen in Figure 1.

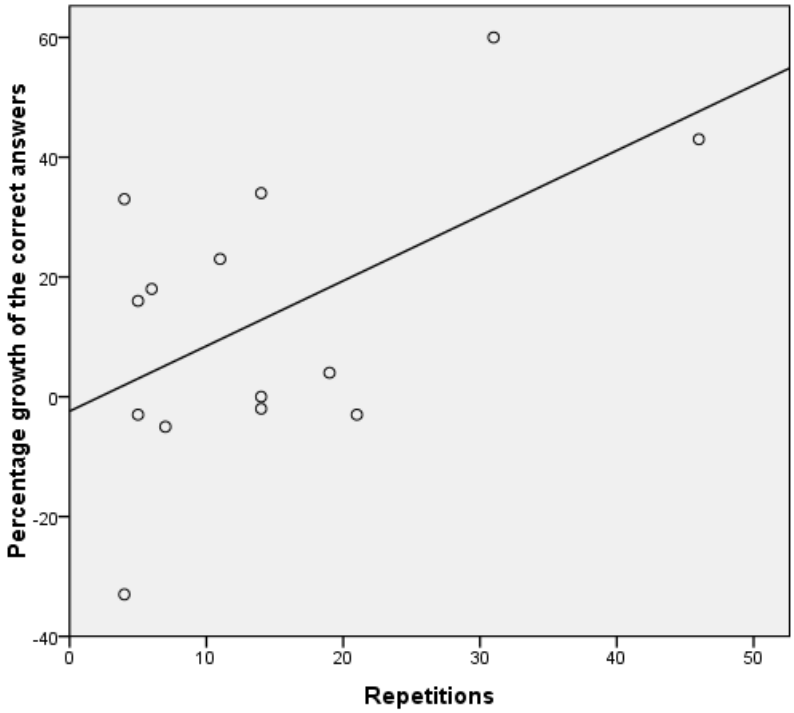

Figure 1. Relationship between the number of correct answers for the form recognition aspect and the number of repetitions of the target legal words

4.3. Meaning recall and the number of repetition

The results of the percentage increase for the meaning recall aspect of the target legal words are shown in Table 8.

Firstly, it is worth noting that the analysis of percentage increase for each target word for the meaning recall aspect reveals poorer results in comparison to the form recognition aspect. Moreover, no consistent growth of the number of correct answers for each target word was observed when analysing its relationship with the number of repetitions. The percentage increase for the words that were more frequently repeated in the videos was similar or lower in comparison to the target words that were repeated fewer times. For example, the target words *abduction* (11 repetitions) and *guilty* (14 repetitions) showed an increase of 31% and 21% respectively, whereas the target words *witness* (21 repetitions) and *prosecutor* (46 repetitions) achieved a 14% and a 6% increase, respectively.

Repetitions	Target words	Control group			Incidental group			% increase
		Total participants	Correct answers	%	Total participants	Correct answers	%	
4	attorney	23	1	4%	17	2	12%	7%
4	manslaughter	23	0	0%	17	0	0%	0%
5	questioning	23	10	43%	17	7	41%	-2%
5	statement	23	1	4%	17	1	6%	2%
6	parole	23	0	0%	17	0	0%	0%
7	burglary	23	12	52%	17	8	47%	-5%
11	abduction	23	1	4%	17	6	35%	31%
14	guilty	23	14	61%	17	14	82%	21%
14	arson	23	0	0%	17	1	6%	6%
14	stalker	23	11	48%	17	5	29%	-18%
19	trial	23	6	26%	17	9	53%	27%
21	witness	23	13	57%	17	12	71%	14%
31	alibi	23	1	4%	17	11	65%	60%
46	prosecutor	23	0	0%	17	1	6%	6%

Table 8. Percentage increase for the meaning recall aspect

Repetitions	Target words	% increase	Fisher test results	
4	attorney	7%	0,385	not significant
4	manslaughter	0%	-	not significant
5	questioning	-2%	0,571	not significant
5	statement	2%	0,676	not significant
6	parole	0%	-	not significant
7	burglary	-5%	0,500	not significant
11	abduction	31%	0,016	significant
14	guilty	21%	0,132	not significant
14	arson	6%	0,425	not significant
14	stalker	-18%	0,199	not significant
19	trial	27%	0,080	not significant
21	witness	14%	0,283	not significant
31	alibi	60%	<0,001	significant
46	prosecutor	6%	0,425	not significant

Table 9. Fisher test results for the meaning recall aspect

An additional statistical Fisher test analysis revealed that the percentage increase was statistically significant only for the target words *alibi* and *abduction* (see Table 9). A non-significant moderate correlation of 0.4 was found when analysing the linear relationship between the number of repetitions and the percentage improvement for each target word for the meaning recall aspect (see Figure 2).

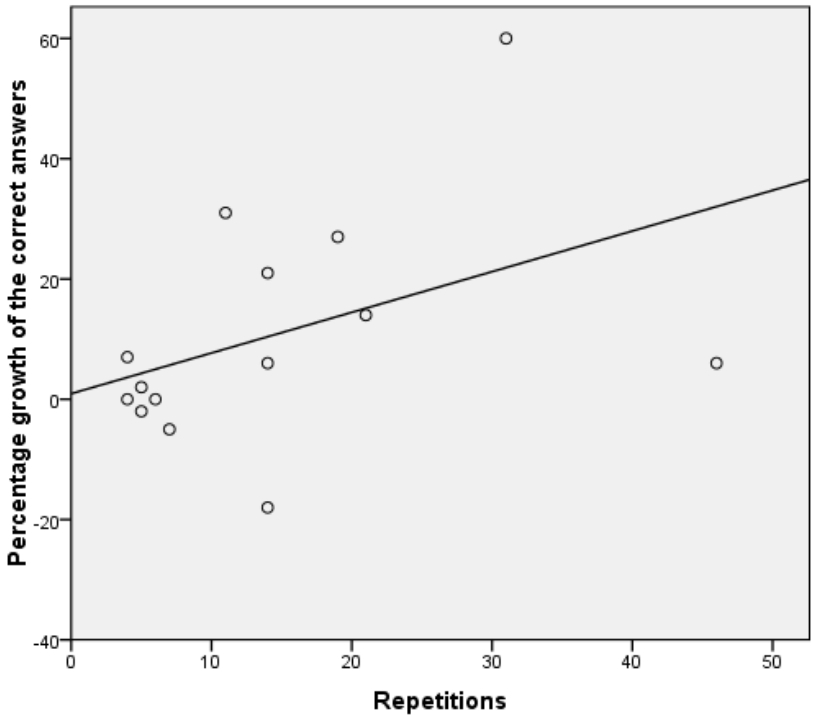

Figure 2. Relationship between the number of correct answers for the meaning recall aspect and the number of repetitions of the target legal words

5. DISCUSSION AND CONCLUSIONS

The first research question of this experiment asked about the effectiveness of watching 5 hours of authentic videos for incidental legal vocabulary learning. Previous studies on incidental learning of general vocabulary through the video input (see Gorjian, 2014; Peters & Webb, 2018; Rodgers, 2013) found evidence that long-term exposure to authentic videos can lead to gains in vocabulary knowledge. The data of this study, however, reveals a rather mixed picture. In principle, an improvement of 14% and 10% was observed in the form recognition and meaning recall post-tests respectively, which seems to point to the fact that some incidental legal vocabulary learning may have taken place after having watched 5 hours of authentic TV series. Nevertheless, these percentage results

should be interpreted with caution due to the small sample size. Firstly, the number of participants in both groups was rather small, which made us use the Fisher test for the subsequent statistical analysis. Secondly, a closer look at the percentage scores of the target words in the two post-tests reveals a broad range of results in the sample. For example, for the form recognition aspect, some of the target words had to be excluded from further analysis due to initially high percentage scores (more than 87% of form recognition in the control group). As for the meaning recall post-test, the data shows many different percentage results for the target words. Moreover, the general outcome of the meaning recall post-test is rather poor in comparison to the form recognition post-test (75% of correct answers in the control group in the form recognition post-test in comparison to 32% in the meaning recall one). On the one hand, such poor general result for the meaning recall aspect was expected due to the fact that previous studies on this matter through the written and listening types of input suggest that the learning of the form recognition aspect occurs earlier than the learning of the meaning recall aspect (Pellicer-Sánchez & Schmitt, 2010; van Zeeland & Schmitt, 2013). On the other hand, however, generally low performance of the participants on the meaning recall post-test seems to raise doubts concerning the real effectiveness of watching 5 hours of authentic video for incidental learning of this aspect in particular and the general effectiveness of such activity for incidental legal vocabulary learning. That is why, given the many differences in the results of the two post-tests and the small number of the subjects in both groups, no definite conclusion can be drawn concerning the usefulness of watching 5 hours of authentic videos for incidental legal vocabulary learning.

The second and third research questions of the current study were concerned with the minimal number of repetitions needed for consistent incidental learning of the form recognition and meaning recall aspects of the target legal words. To begin with, the results of the form recognition test showed a significant moderate correlation between the number of repetitions and the incidental learning of this aspect. In this sense, the results of our study are in line with previous studies by Peters and Webb (2018), Peters et al. (2016), and Rodgers (2013), who also found evidence of a positive relationship between the number of occurrences of the target words and incidental learning of the form aspect of new words. Contrary to these three studies, however, we did not find a significant correlation between the number of repetitions and the learning of the meaning recall aspect of the legal target words. The reason for this contradiction between previous research and the present one can be the small number of participants and target words.

In reference to the minimal number of repetitions for successful recognition of the form aspect, previous studies through different types of input suggest that learners should encounter a new word from 3 to 15+ times in order to successfully learn different aspects of it. Waring and Takaki (2003), for example, speak about 8 occurrences as the possible minimal number of repetitions for form recognition of

new words and more than 15 repetitions for the meaning recall aspect of the new words. Pellicer-Sánchez and Schmitt (2010) note that the participants of their study were able to recognise the form of almost 80% and the meaning of over half of the target words after 10-17 repetitions. At first glance, the results of this study suggest that for the form recognition aspect the possible minimal number of repetitions for successful incidental learning may lie around 14 repetitions. Nevertheless, we should sound a note of caution with regard to this finding as some of the target words (*stalker*, *trial*, *guilty*, *statement*, *burglary*, and *witness*) showed initially high scores in the form recognition post-test and had to be eliminated from further analysis (see Section 4.2, Table 6). In the case of the target words *trial*, *guilty*, *statement*, *burglary*, and *witness*, one possible explanation of these initially high percentages may lie in their frequency. As was mentioned in Section 3.3., the *Range* program detected the target words among the 3,000 most frequent words. The inclusion of these words into the target word list was a risky decision and, as a consequence, had an effect on the overall outcome of the present study. As for the target word *stalker*, the initially high result is surprising as the word does not belong to the 3,000 most frequent words. It is probable that this word has become usual through cyberstalking, which is an unfortunately frequent phenomenon in recent times. Moreover, it is worth noting that most of these target words are very common in general English and could hardly pose much difficulty for those not familiar with legal English. The multiple-choice format of the form recognition post-test, which could have helped the participants guess the correct answers of these words, is another factor which can be accounted for the initially high percentage results of some of the target words.

As for the minimal number of repetitions for successful recall of meanings of the target legal words, the results of our study do not allow us to draw any definite conclusion due to various reasons. Firstly, the results that can be observed in Table 8 demonstrate very different percentage scores for the words with high and low number of repetitions. Thus, for example, the words *abduction*, *guilty*, and *witness*, which were repeated 11, 14 and 21 times in the video respectively, show higher scores in comparison to the target word *alibi*, which had 46 occurrences in the video. It is very likely that once again the frequency of the target words may have led to these high results. Secondly, although the number of correct answers in the meaning recall post-test seems to increase starting with 11 repetitions (e.g. *questioning*, *statement*, *parole*, and *burglary* do not exceed a 7% of increase, whereas the words *abduction* (11 repetitions), *guilty* (14 repetitions), *trial* (19 repetitions), *witness* (21 repetitions), and *alibi* (31 repetitions) show more than 14% of improvement), the statistical Fisher test revealed that this percentage increase for almost all of the target words was non-significant. Moreover, a non-significant relationship was found between the number of repetitions and the learning of the meaning recall aspect of the legal target words.

Finally, we believe that despite the fact that our work has some limitations related to the small number of participants and target word sample, it could serve

as the basis for further research of this kind. That is why more work into the effectiveness of watching long authentic videos for incidental legal vocabulary learning and the influence of the repetition variable on this process is undoubtedly needed as it can shed light on the mixed picture of results observed in the current study.

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EKATERINA SINYASHINA is an associate teacher and a PhD student at the University of Alicante (Spain). Her research interests lie in the area of general and ESP vocabulary teaching and learning through authentic videos (e.g. films, TV series, etc.).

Appendix A

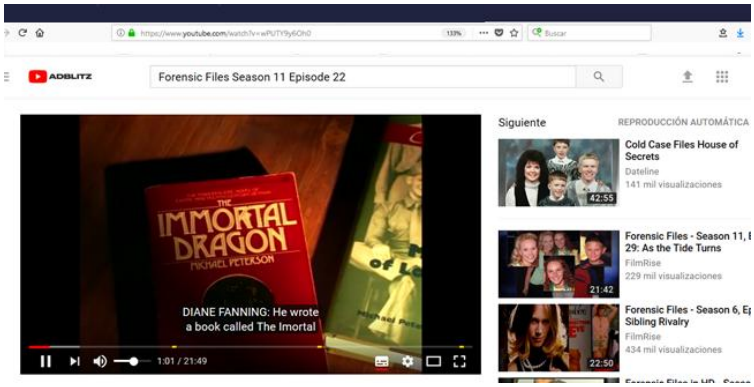
Your ID number: **Age**:

1. Do you like watching documentaries, films or TV series about crime investigation?
Yes No

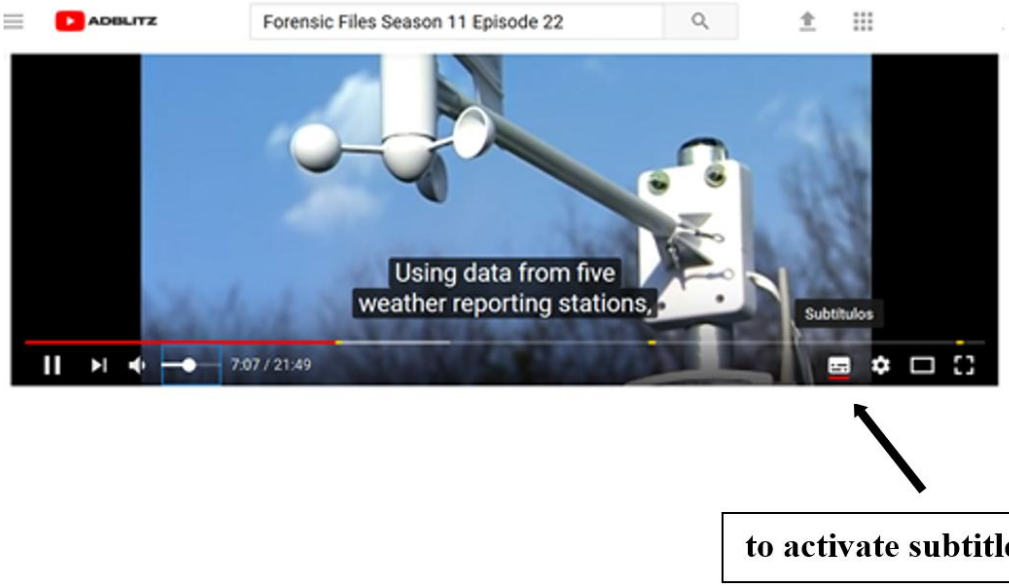
2. Would you like to participate in a study that consists of watching 16 Episodes of the TV documentary *Forensic Files* (approximately 5 hours)?
Yes No

Appendix B

1. Follow this link to access the first video of season 11 of the *Forensic Files* TV documentary:
https://www.youtube.com/watch?v=wPUTY9y6Oh0
You can also type the following line in the YouTube search engine: Forensic Files Season 11 Episode 22.



2. Activate subtitles as shown in the picture below.



3. Watch the following episodes with subtitles in English: 22, 23, 25, 26, 27, 28, 30, 31, 33, 34, 35, 37, 38, 39, 40, 41.

Appendix C

Your ID number: **Age**:

Circle the correct spelling of the existing words in English.

1.	a) fellonny	b) felloni	c) fellony	d) felony
2.	a) chargess	b) chages	c) charges	d) chargs
3.	a) attorney	b) attorny	c) atorni	d) atorny
4.	a) a mensloghter	b) a menslaughter	c) a mansloghter	d) a manslaughter
5.	a) questionning	b) questionny	c) questiony	d) questioning
6.	a) estatment	b) statment	c) statement	d) estatement
7.	a) parole	b) paroll	c) peroll	d) perol
8.	a) testmony	b) tesstimony	c) testymony	d) testimony
9.	a) court	b) corte	c) courte	d) cuorte

10.	a) asaulte	b) assault	c) assaulte	d) asault
11.	a) berglary	b) berglery	c) burglery	d) burglary
12.	a) abducttion	b) aducttion	c) abduction	d) aduction
13.	a) finguerprints	b) finguerprins	c) fingherprins	d) fingerprints
14.	a) connvicted	b) convicted	c) connvictted	d) convictted
15.	a) blod spater	b) blood spatter	c) blood spater	d) blood espater
16.	a) gulty	b) guiltie	c) gultie	d) guilty
17.	a) arson	b) arsen	c) arsan	d) arsun
18.	a) stalquer	b) estalker	c) stalker	d) estalquer
19.	a) triale	b) trial	c) trialle	d) triall
20.	a) witnes	b) wittness	c) witness	d) wittnes
21.	a) aliby	b) eliby	c) elliby	d) alibi
22.	a) prossecutor	b) prosecutor	c) prossecuter	d) prosecuter
23.	a) evidense	b) evidens	c) evidence	d) evedens

Appendix D

Your ID number: **Age**:

Translate the following legal words into Spanish. If you do not know or are not sure about the translation, leave the corresponding line blank.

1. felony
2. charges
3. attorney
4. manslaughter
5. questioning
6. statement
7. parole
8. testimony
9. court
10. assault
11. burglary
12. abduction
13. fingerprints
14. convicted
15. blood spatter
16. guilty
17. an arson
18. stalker
19. trial
20. witness
21. alibi
22. prosecutor
23. evidence